9(once amended). An apparatus for monitoring and controlling treatment of a water cooling system comprising:

a self-contained treatment unit including a control device, an inhibitor feed pump and an inhibitor agent contained within one or more containers wherein the self-contained treatment unit is powered by a 12 volt power source, wherein said 12 volt power source is any deep cycle rechargeable 12 volt battery;

a conductivity sensor electrically communicating with the control device such that the conductivity sensor transmits a signal to the control device indicative of electrical conductivity of water from the water cooling system;

a submersible bleed pump electrically communicating with the control device such that the control device controllably activates the submersible bleed pump when the signal is at or exceeds a preset value wherein the submersible bleed pump removes water from the water cooling system upon activation thereof; and

the inhibitor feed pump electrically communicating with the control device such that the control device controllably activates the inhibitor feed pump wherein the inhibitor feed pump acts to deliver the inhibitor agent to the water cooling system for treating scale and/or corrosion.

REMARKS

Applicants herein affirm their election of the claims of Group I, namely claims 1-17. Accordingly, Applicants have herein cancelled Claims 18-20, while retaining the right to assert these claims in one or more later-to-be-filed divisional or continuation patent applications.

Claim 1 stands rejected under 35 U.S.C. § 112, second paragraph, for allegedly bring indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants have herein amended claim 1 to change the phrase, "the water cooling system" to the phrase "the water in an aqueous system". Accordingly, Applicants courteously request the withdrawal of this rejection and that a Notice of Allowance be sent for all pending claims.

Claims 4 and 9 have been amended to specify that the 12-volt power source comes from "any deep cycle rechargeable 12 volt battery". Support for this amendment can be found on page 14, lines 9-11. Applicants state that no new matter is being added by these amendments and requests that they be entered.

Claims 1-3, 5, 6 and 8 stand rejected under 35 U.S.C. §103(a), for allegedly being unpatentable over Hays et al. in view of Hoots et al. . Applicant respectfully traverses this rejection on the grounds that Hays et al. does not describe, teach or disclose all of the elements of the instant claimed invention; that Hoots et al. does not describe, teach, disclose or suggest all of the elements of the instant claimed invention, that there is no suggestion to combine the teachings of Hays et al. and Hoots et al. and even if the references were improperly combined they still do not describe, teach, disclose or suggest the instant claimed invention.

The instant claimed invention of Claim 1, as herein amended, is:

An apparatus for self-contained treatment of an aqueous system comprising:

a housing enclosing a controller, a feed pump and a treatment agent contained within one or more containers;

a sensor electrically communicating with the controller for measuring a parameter of water within the aqueous system;

a bleed pump electrically communicating with the controller such that the controller controllably activates the bleed pump when the parameter is at or exceeds a predetermined level wherein the bleed pump removes water from the aqueous system upon activation; and

the feed pump electrically communicating with the controller such that the controller controllably activates the feed pump during activation of the bleed pump wherein the feed pump acts to deliver the treatment agent to the water in an aqueous system.

In contrast to the instant claimed invention, the Hayes et al. patent discloses an infinitely more complicated "Performance-Based Control System" wherein parameters such as flow rate of make-up cooling medium, conductivity, corrosion rate and fouling index, are measured in order to conduct the method of Hayes et al. In order to operate the Method of Hayes et al., means for measuring all of these parameters must be included as well.

In contrast to the complicated method of Hayes et al., the instant claimed invention provides for a self-contained treatment unit for monitoring and/or controlling treatment of an aqueous system, wherein the self-contained nature of the treatment unit allows for ready installment without requiring extensive, excessive and additional piping, electrical wiring, connections to a main power source or other like installment features characteristic of conventional water treatment systems.

Hoots et al. describes and claims a method of controlling a cooling water system in which control is based on information from a control Matrix applicable to the specific operating parameters of the cooling water system. Hoots et al. does not disclose or claim a 'self-contained treatment unit for monitoring and/or controlling treatment of an aqueous system".

There is no suggestion that Applicants or their Attorney are aware of to combine the Hays et al. reference with the Hoots et al. reference. Even if the references were improperly combined there is no suggestion from their combination of "a self-contained treatment unit for monitoring and/or controlling treatment of an aqueous system". Accordingly, Applicants request withdrawal of this rejection and that a Notice of Allowance be sent for all pending claims.

Claim 4 stands rejected under 35 U.S.C. §103(a), for allegedly being unpatentable over Hays et al. in view of Hoots et al. as above, and further in view of O'Leary 4,464,315 . Applicant respectfully traverses this rejection on the grounds that Hays et al. does not describe, teach or disclose all of the elements of the instant claimed invention; that Hoots et al. does not describe, teach, disclose or suggest all of the elements of the instant claimed invention, that O'Leary does not describe, teach, disclose or suggest all of the elements of the instant claimed invention, that there is no suggestion to combine the teachings of Hays et al. and Hoots et al. and O'Leary; and even if all of the references were improperly combined they still do not describe, teach, disclose or suggest the instant claimed invention.

Claim 4, as herein amended, reads as follows:

The apparatus of claim 1 wherein the apparatus further comprises a 12 volt power source, supplied by any deep cycle rechargeable 12 volt battery, wherein said power source provides power to the apparatus.

Therefore, Claim 4 has all the limitations of Claim1, plus a further limitation in that it requires that a 12 volt power source, supplied by any deep cycle rechargeable 12 volt battery, be present for supplying power to the apparatus. Applicants have already recited why it is their position that neither Hays et al. nor Hoots et al., either alone or in improper combination, can be used to render Claim 1 unpatentable. Those arguments apply here as well. O'Leary (U.S. Patent No. 4,464,315) teaches an indexing controller system and method of automatic control of cooling water tower system based on controlling the cycling of water in a cooling tower system having a source of make-up water of variable conductivity, not a self-contained cooling system feed and bleed system. The 12-volt power source in O'Leary is a "...conventional , i.e., 60 HZ, 120 volts alternating current supply." O'Leary, U.S. Patent No. 4,464,315, column 10, lines 18-

21. Therefore, O'Leary is not supplying power by the same means as the power is supplied in Claim 4.

There is no suggestion to combine the Hays et al reference with the Hoots et al. reference with the O'Leary reference. Even if the references were improperly combined there is no suggestion from their combination of "a self-contained treatment unit for monitoring and/or controlling treatment of an aqueous system wherein the power is supplied by a 12-volt power source, supplied by any deep cycle rechargeable 12 volt battery,". Accordingly, Applicants request withdrawal of this rejection and that a Notice of Allowance be sent for all pending claims.

Claims 7 and 14-17 stand rejected under 35 U.S.C. §103(a), for allegedly being unpatentable over Hays et al. in view of Hoots et al. as above, and further in view of Takahashi . Applicant respectfully traverses this rejection on the grounds that Hays et al. does not describe, teach or disclose all of the elements of the instant claimed invention; that Hoots et al. does not describe, teach, disclose or suggest all of the elements of the instant claimed invention, that Takahashi does not describe, teach, disclose or suggest all of the elements of the instant claimed invention, that there is no suggestion to combine the teachings of Hays et al. and Hoots et al. and Takahashi; and even if all of the references were improperly combined they still do not describe, teach, disclose or suggest the instant claimed invention.

Claim 7 reads as follows:

The apparatus of claim 1 wherein the bleed pump is a submersible pump that is located within the aqueous system.

Claim 14 reads as follows:

A system for monitoring and controlling treatment of an aqueous system comprising:
a sensor located within the aqueous system for measuring a parameter of water within the aqueous system which is capable of varying with respect to changes in the aqueous system due to scale, corrosion and/or biofouling;
a submersible bleed pump for removing water from the aqueous system; and
a self-contained treatment unit electrically communicating with the sensor and the bleed pump such that the self-contained treatment unit controllably activates the submersible bleed pump to remove water from the aqueous system when the parameter of water is at or exceeds a predetermined level, the treatment unit comprising a housing for enclosing a controller, an inhibitor feed pump, an inhibitor agent contained within one or more containers wherein the controller controllably activates the inhibitor feed pump to deliver the inhibitor agent to the aqueous system during activation of the bleed pump.

Applicants have already recited why it is their position that neither Hays et al. nor Hoots et al., either alone or in improper combination, can be used to render Claim 1 unpatentable. Those arguments apply to why neither Hays et al. nor Hoots et al. can be used to render Claim 7 and Claims 14-17 unpatentable as well.

Takahashi discloses a water quality control method for recycling cooling water in a cooling tower equipped with a blow system and means for introduction of a water treatment agent. Takahashi does not have a "self-contained treatment unit electrically communicating with the sensor..." What Takahashi does have is one type of parameter to determine the point of addition of water treatment agent being a clock, with the clock measuring the amount of time between addition points for the water treatment agent. (see column 4, lines 24-26; column 5, lines 2-12). This use of a clock is not really contemplated by the instant claimed invention.

There is no suggestion that Applicants or their Attorney are aware of to combine the Hays et al reference with the Hoots et al. reference with the Takahashi reference. Even if the references were improperly combined there is no suggestion from their combination of

"A system for monitoring and controlling treatment of an aqueous system comprising:

a sensor located within the aqueous system for measuring a parameter of water within the aqueous system which is capable of varying with respect to changes in the aqueous system due to scale, corrosion and/or biofouling;

a submersible bleed pump for removing water from the aqueous system; and

a self-contained treatment unit electrically communicating with the sensor and the bleed pump such that the self-contained treatment unit controllably activates the submersible bleed pump to remove water from the aqueous system when the parameter of water is at or exceeds a predetermined level, the treatment unit comprising a housing for enclosing a controller, an inhibitor feed pump, an inhibitor agent contained within one or more containers wherein the controller controllably activates the inhibitor feed pump to deliver the inhibitor agent to the aqueous system during activation of the bleed pump. " ,

Accordingly, Applicants request withdrawal of this rejection and that a Notice of Allowance be sent for all pending claims.

Claims 9-13 stand rejected under 35 U.S.C. §103(a), for allegedly being unpatentable over Hays et al. in view of Hoots et al. and Takahashi, as above, and further in view of O'Leary . Applicant respectfully traverses this rejection on the grounds that Hays et al. does not describe, teach or disclose all of the elements of the instant claimed invention; that Hoots et al. does not describe, teach, disclose or suggest all of the elements of the instant claimed invention, that Takahashi does not describe, teach, disclose or suggest all of the elements of the instant claimed invention, that O'Leary does not describe, teach, disclose or suggest all of the elements of the instant claimed invention; that there is no suggestion to combine the teachings of Hays et al. and Hoots et al. and Takahashi and O'Leary; and that even if all of the references were improperly combined they still do not describe, teach, disclose or suggest the instant claimed invention.

The instant claimed invention in Claim 9, as herein amended, is as follows:

Claim 9. An apparatus for monitoring and controlling treatment of a water cooling system comprising:

a self-contained treatment unit including a control device, an inhibitor feed pump and an inhibitor agent contained within one or more containers wherein the self-contained treatment unit is powered by a 12 volt power source, supplied by any deep cycle rechargeable 12 volt battery;

a conductivity sensor electrically communicating with the control device such that the conductivity sensor transmits a signal to the control device indicative of electrical conductivity of water from the water cooling system;

a submersible bleed pump electrically communicating with the control device such that the control device controllably activates the submersible bleed pump when the signal is at or exceeds a preset value wherein the submersible bleed pump removes water from the water cooling system upon activation thereof; and

the inhibitor feed pump electrically communicating with the control device such that the control device controllably activates the inhibitor feed pump wherein the inhibitor feed pump acts to deliver the inhibitor agent to the water cooling system for treating scale and/or corrosion.

In contrast to the instant claimed invention, none of the cited references refer to a "self-contained treatment unit" with the listed items, one of which being the heavily discussed, "submersible bleed pump" being included. It is this self-contained treatment unit that forms the patentable core of this invention. The fact that the treatment unit is contained, means there is only one unit to install, rather than multiple units from different manufacturers. This one treatment unit has a power source that is part of the unit; which power source renders the unit both field usable and portable. Furthermore, the ready installation (see specification, page 4, lines 8-12) without requiring extensive piping, electrical wiring, or power from a main power source is a very useful feature of the invention.

Accordingly, Applicant requests withdrawal of all rejections and that a Notice of Allowance be sent for all pending claims.

CONCLUSION

Based on the preceding actions and Remarks, Applicants respectfully request reconsideration of this patent application and courteously request that a Notice of Allowance be sent for all pending claims.

Respectfully submitted,

Margaret Meta Brumm
Reg. No. 33,655
Ondeo Nalco Company
Ondeo Nalco Center
1601 West Diehl Road
Naperville, Illinois 60563-1198
(630) 305-1423